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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Norman Ken Ouchi

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NORMAN KEN OUCHI

P.O. BOX 20111

SAN JOSE, CA 95160

EXAMINER

CHOI, PETER H

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/036,200	Applicant(s) OUCHI, NORMAN KEN	
	Examiner PETER CHOI	Art Unit 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a **FINAL** office action upon examination of application number 10/036,200. Claims 21-39 are pending in the application and have been examined on the merits discussed below.

Response to Amendment

2. Claims 21-39 have been amended in the response filed July 18, 2007.
3. The previous rejection of claims 21-39 raised under 35 U.S.C. 112, first and second paragraphs, are withdrawn in view of amended claims filed July 18, 2007.

Response to Arguments

4. Applicant's arguments filed July 18, 2007 have been fully considered but they are not persuasive.

Applicant argues that the entire graph in Figure 7 of Du is a single route since the definition of the object route now explicitly provides conditional branches, parallel paths, and loops.

The Examiner respectfully disagrees. Page 2 of the Applicant's specification explains that "The sequence of steps is called a route. A route can define a process with conditional branching to implement business procedures". Based on this definition, the Examiner asserts that there are two distinct "routes" seen in Figure 7 of Du - {Work

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Node 1, Work Node 2, Rule Node 3, Work Node 5, Rule Node 5, Work Node 6, Rule Node 6, Work Node 7, Rule Node 7, Work Node 8, Rule Node 8} and {Work Node 1, Work Node 2, Rule Node 3, Rule Node 2, Work Node 9, Rule Node 6, Work Node 7, Rule Node 7, Work Node 8, Rule Node 8). Both routes contain common route segments {Work Node 1, Work Node 2, Rule Node 3} and {Rule Node 6, Work Node 7, Rule Node 7, Work Node 8, Rule Node 8), but visit different Work and Rule Nodes that make the paths distinct from each other. For instance, travelling from Los Angeles to Denver to New York is a different route than travelling from Los Angeles to Seattle to Detroit to Pittsburgh to New York. The existence of overlapping nodes or common/shared nodes does not make the routes the same. The nodes, along with the sequence in which the nodes are visited, make the routes distinct from each other. Thus, the Examiner asserts that Figure 7 of Wu is not representative of a single route.

Applicant argues that Du does not teach what is illustrated in Figure 3A of the subject disclosure where the route segments are connected outside of the object route as illustrated by the connection of the Audit step in the ERP Stage object to the A1 Set Up step in the ERP Step A1 object or the B1 Retest step in the ERP Step B1 object to the Repair step in the ERP Step A1 object.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., route segments are connected outside of the object route) are not recited in the

rejected claim(s). As currently written, there is nothing in the claims that require route segments to be connected outside of the object route. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

5. Certain arguments raised by the Applicant with respect to claims 21-39 have been considered but are moot in view of the new ground(s) of rejection. In particular, the argument that “Du et al. does not teach independent workflow that operates asynchronously without reliance on the other” has been addressed by the newly presented reference in the Office Action below.

Official Notice

In the previous Office Action mailed May 5, 2006, notice was taken by the Examiner that certain subject matter is old and well known in the art. Per MPEP 2144.03(c), these statements are taken as admitted prior art because no traversal of this statement was made in the subsequent response. Specifically, it has been taken as prior art that:

- Workflow can be applied to a plurality of work processes, including manufacturing and production
- It is old and well known in the art that bar code readers and radio frequency (RFID) tags are amongst the plurality of input/output devices that are used in business procedure

- Bar codes and RFID tags are beneficial in that they enable companies to track, manage, and monitor the real-time status of and whereabouts of inventory, especially in the manufacturing process. They also give valuable information about the quantity of products being bought or received
- It is old and well known in the art to connect a plurality of networked computers to the Internet

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 21-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21, 29, and 32 disclose a system/method for coordinating two workflow routes, with the two routes “independent” of each other. It is unclear what is meant by “independent”. Specifically, it is claimed that a first route is formed **from** the first object route by connecting the route segments of each object step. Thus, it appears that the object route forms the basis of the route. It is unclear how these two routes are “independent” of each other. For examination purposes, “independent” is being

interpreted such that the two workflow routes are asynchronous and do not depend on one another for operation. Clarification is required.

Claims 22-28, 30-31, and 33-39 are dependent on claims 21, 29, and 32 respectively, and thus are also rejected.

Claim 22 recites a “third object step with an associated second route segment”. It is unclear if this is the same “second route segment” as that of the second object step, or in reference to a different route segment.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 21-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du et al. (US Patent #5,826,239) in view of Kenton (US Patent #6,845,507).

As per claim 21, Du et al. teaches a method for coordinating a first level route directed workflow and an independent second level route directed workflow using an object step, the method comprising:

(a) defining a first object step **{W1}** (representing process activities in business objects to create new workflow processes by assembling business objects to describe workflow processes) with an associated first route segment **{forward arc connecting to W2}** (business object is a representation of something active in the business domain, including its business name and definition, attribute, behavior and constraints. It provides a uniform way to encapsulate legacy systems and applications and a direct mapping, in understandable business terms, between the business model and the possibly sophisticated operational procedures of the workflow process system), a sequence of steps (each workflow process includes a sequence of activities) to be connected to other route segments **{W1 is connected to W2 by a route segment}** (some aspects of the workflow process can be preplanned and deliberately structured; parts of the workflow process involving certain departments can be preplanned) [Column 6, lines 40-41, Column 7, lines 11-17, Column 10, lines 23-34, Figure 7];

(b) defining a second object step **{W2}** with an associated second route segment **{the arc between W1 and W2, the forward arc between W2 and R3}**, a sequence of steps to be connected to other route segments **{W2 is connected to R3 by a route segment}** [Figure 7];

(c) defining a first level workflow means directed by an object route, a sequence of object steps **{W1, W2, W5, W6, W7, W8}** (each workflow process 18 includes a sequence of activities, each of which is ordinarily performed by one of the computer systems 12a-d in conjunction with an associated user 14a-b or

machine 15a-b; the specific structure and flow of each workflow process can be preplanned; parts of the workflow process involving certain departments can be preplanned; a workflow process is a description of the sequencing, timing, dependency, data, physical agent allocation, business rule and organization policy enforcement requirements of business activities needed to enact work; A work node 41 is a placeholder for a process activity, which is a logical representation of a piece of work contributing towards the accomplishment of a process 18. A process activity is mapped to the invocation of an operation on business objects during the execution of the process...A process activity definition includes a forward activity and optionally, a compensation activity, a cancel activity, a resource management activity, timeout and deadline information and input and output data) [Column 6, lines 40-43, Column 7, lines 4-5 and 16-17, Column 8, lines 11-15, 45-58, Figure 7];

(d) defining an independent second level workflow means directed by a route, a sequence of steps **{R2, W9, R6, W7, R7, W8, R8}** a sequence of steps [Figure 7];

(e) defining a first object route **{W1, W2, W5, W6, W7, W8}**, a sequence of object steps **(each workflow process includes a sequence of activities; workflow process is specified by the process design modules via the workflow process definition interface)**, including the first object step and second object step, providing conditional branches, parallel paths, and loops such that all connected object steps are included **(The workflow process 18 can span several business organizations with multiple activities potentially performed in parallel; reset arcs are used to support**

repetitions {i.e., loops} or explore alternatives {i.e., parallel paths} in a workflow process 18; In OpenPM, a rule node contains a list of condition-action rules {i.e., conditional steps/actions}, where the condition is a Boolean expression of values such as the execution status of previous nodes, the time at which each inward arc was fired, and other data used in the process instance, while the action fires outgoing arcs) [Column 6, lines 40-52, Column 7, lines 59-67, Column 8, lines 31-32, Column 19, lines 60-67, Figure 7];

(f) forming a first route **{W1, W2, R3, W5, R5, W6, R6, W7, R7, W8, R8}** from the first object route **{W1, W2, W5, W6, W7, W8}**, by connecting the route segments associated with each object step **{forward arcs and reset arcs between nodes}**, including the first route segment and second route segment **{W1, W2}**, in the sequence of the object steps of the first object route **(workflow process is represented as a directed graph consisting of a set of nodes connected by arcs; work nodes represent activities to be performed and rule nodes are used to specify workflow processes that are more complex than a simple sequence)** [Column 8, lines 15-17, 45-47, and 59-61, Figure 7];

(g) providing the first object route to direct the first level workflow means **{the workflow process represented by Figure 7 is “provided”, or applied to the HP OpenPM engine for execution}** [Figure 7, Column 9, lines 36-43];

(h) providing the first route to direct the second level workflow means, such that the first level workflow starts the first object route, and the second level workflow starts the first route and the second level workflow completes the first route, and the first

level workflow completes the first object route **{the workflow process represented by Figure 7 is “provided”, or applied to the HP OpenPM engine}** [Figure 7, Column 9, lines 36-43].

As per (c) and (d), Du et al. does not explicitly teach the inclusion of an Enterprise Resource Planning (ERP) or shopfloor system in the definition of workflow.

However, it has been admitted as prior art, as a result of improperly and/or untimely challenged Official Notice, that workflow can be applied to a plurality of work processes, including manufacturing and production. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Du et al. to define workflows for a shopfloor system and an ERP system, because the resulting combination would enable companies to define sequences of tasks and activities contributing towards the accomplishment of a process while keeping track of resource status and assigning available resources to tasks, and further because efficient resource management and assignment is important to workflow process execution, according to Du [Column 21, lines 55-56].

As per (f) and (h), Du et al. does not explicitly teach “independent” workflow routes in which routes are not reliant on one another. However, Kenton teaches the use of parallel workflow processes **(Referring to Figure 3, this process [purchasing and allocation of 1000 shares of ‘ABC’ corporation stock to various client portfolios]**

could be broken down into stages as is shown. Two parallel workflow processes are initiated in response to TMA 102 allocating the 1000 shares of 'ABC' stock 308. The first workflow process with Stages 1A, 2A and 3A updates the PMA database with the allocations. The second workflow process with Stages 1B, 2B, 3B and 4B verifies that the PMA master file contains the information for the stock symbol allocated and updates the PMA master file if the information is not there) [Figure 3, Column 4, line 42 – Column 5, line 13] that operate asynchronously.

Du et al. is directed towards workflow management, namely in definition and creating workflow processes and sequences. Similarly, Kenton is directed towards the processing and execution of workflow processes. Thus, Du et al. and Kenton are deemed to be analogous references within the context of workflow process management. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Du et al. to include independent workflow routes, as taught by Kenton, because doing so enhances the teachings of Du et al. by supporting a workflow process between any number of application systems in any number of locations, as well as allowing any number of parallel but independent workflow processes to be initiated in response to a notification that a particular transaction has occurred (i.e., an inward arc has been fired on a work node), as taught by Kenton [Column 6, lines 25-30].

As per claim 22, Du et al. teaches the method of claim 21, wherein a second object step with an associated second route segment follows the first object step in the sequence of object steps of the first object route **(forward arcs represent the normal execution flow of process activities and form a directed acyclic graph. Successful completion of a node at the source end of a forward arc triggers the starting of the node at the destination end of the forward arc; also see the arrow pointed connections linking each of the rule nodes and work nodes)** and the second route segment provides a feedback connection to the first route segment in forming the second route **(reset arcs are used to support repetitions or explore alternatives in a workflow process. Reset arcs differ from forward arcs in that they reach backwards in the process graph; also see the dashed connection between rule nodes R3, R6 and R7 in Figure 7)** [Column 8, lines 26-34, Figure 7].

As per claim 23, Du et al. teaches the method of claim 21 wherein the first object step with an associated fourth route segment as an alternative route segment such that either the first route segment or the fourth route segment is selected when forming the first route **{in Figure 7, rule node 3 may be proceeded by either rule node 2 or work node 4}** [Figure 7].

As per claim 24, Du et al. teaches the method of claim 21 wherein the first route segment signals the first object step when the first route segment begins directing the second level workflow **{at rule node 8, the first route segment is completed and**

event 3 (138) is raised, which leads to the beginning of 124} (status information of each process instance and load information can be queried using the process status monitor modules via the process status monitoring interface; In OpenPM, a rule node contains a list of condition-action rules, where the condition is a Boolean expression of values such as the execution status of previous nodes, the time at which each inward arc was fired, and other data used in the process instance, while the action fires outgoing arcs) [Figure 7, Column 7, lines 59-67, Column 19, lines 60-67].

As per claim 25, Du et al. teaches the method of claim 21 wherein the first route segment signals the first object step when the first route segment completes directing the second level workflow **{rule module 6 is executed after work module 9} (status information of each process instance and load information can be queried using the process status monitor modules via the process status monitoring interface; In OpenPM, a rule node contains a list of condition-action rules, where the condition is a Boolean expression of values such as the execution status of previous nodes, the time at which each inward arc was fired, and other data used in the process instance, while the action fires outgoing arcs) [Figure 7, Column 7, lines 59-67].**

As per claims 26-28, Du et al. teaches the step of querying status information of each process instance and load information by using the process status modules via the

process status monitoring interface [Column 7, lines 63-67], as well as storing a list of condition-action rules, where the condition is a Boolean expression of values such as the execution status of previous nodes, the time at which each inward arc was fired, and other data used in the process instance, while the action fires outgoing arcs [Column 19, lines 60-67].

Du et al. does not explicitly teach the use of barcode and radio frequency identifiers. However, it has been admitted as prior art, as a result of improperly and/or untimely challenged Official Notice, that it is old and well known in the art that bar code readers and radio frequency (RFID) tags are amongst the plurality of input/output devices that are used in business procedure. Bar codes and RFID tags are beneficial in that they enable companies to track, manage, and monitor the real-time status of and whereabouts of inventory, especially in the manufacturing process. They also give valuable information about the quantity of products being bought or received. Therefore, one of ordinary skill in the art at the time of invention would modify the teachings of Du et al. to include barcodes and radio frequency identifiers to obtain the benefits of said identifiers to track, manage and monitor the real-time status of inventory within established workflow processes.

Claims 29-31 recite limitations already addressed by the rejection of claims 21-23 above; therefore, the same rejections apply.

Claims 32-39 recite limitations already addressed by the rejection of claims 21-28 above, respectively; therefore, the same rejections apply.

In addition, as per claim 32, Du et al. provides a [computer] system and method for distributed resource management in a computer network that includes multiple computers operating under control of workflow management software systems [Column 4, lines 38-43]. Du et al. also implements the HP OpenPM workflow management system, an open, enterprise-capable, object-oriented workflow process management system to manage business activities that support complex enterprise processes in a distributed, heterogeneous computing environment [Column 7, lines 24-29]. The core of the HP OpenPM system is the HP OpenPM engine, which enables the HP OpenPM engine to interact with workflow process designer, workflow process instance execution, workflow process monitor, resource management and business object management modules [Column 7, lines 45-52].

Du et al. is not explicitly implemented via the Internet. However, Kenton teaches the use of the Internet **(network 104 may be any kind of communications network that is known in the art, including, but not limited to, a local area network (LAN), a wide area network (WAN), a global network (e.g., the Internet), a virtual private network (VPN) and an intranet)** [Column 4, lines 22-26] to connect computer systems together [Column 4, lines 3-11].

Du et al. is directed towards workflow management, namely in definition and creating workflow processes and sequences. Similarly, Kenton is directed towards the processing and execution of workflow processes. Thus, Du et al. and Kenton are deemed to be analogous references within the context of workflow process management. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Du et al. to incorporate the Internet, as taught by Kenton, because doing so enhances the teachings of Du et al. by enabling applications created by different companies and being operated from different physical locations to participate in the same workflow process, as taught by Kenton [Column 4, lines 3-11].

Further, it is noted that it has been admitted as prior art, as a result of improperly and/or untimely challenged Official Notice, that it is old and well known in the art to connect a plurality of networked computers to the Internet. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Du et al. to include the use of the Internet, as the resulting combination would enable the management of workflow amongst a plurality of distinct and remotely located business organizations whose activities are performed in parallel, and would also provide global communication amongst said business organizations.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER CHOI whose telephone number is (571)272-6971. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 7, 2008

/P. C./
Examiner, Art Unit 3623

/Romain Jeanty/
Primary Examiner, Art Unit 3623